REMARKS

Favorable reconsideration of the present application is respectfully requested.

Claims 1-8 are presented for examination in this application.

The outstanding Office Action includes a rejection of Claims 1-8 under 35 U.S.C. §103(a) as being unpatentable over Frazier et al (U.S. Patent No. 5,193,008, Frazier) in view of Itoh et al (U.S. Patent No. 5,412,408, Itoh).

Before discussing the outstanding rejection of Claims 1-8 over Frazier in view of Itoh, it is believed that a brief review of the present invention would again be helpful. In this regard, the present invention is directed to an image forming apparatus providing light fluxes overlapped in a sub-scan direction of the apparatus so as to form a central dot on a photosensitive layer when the exposure intensity exceeds 50% of a maximum value where the overlap between adjacent light fluxes is centered. The overlapped light fluxes are provided with a beam spot diameter Ws defined by $1/e^2$ of the maximum value in the exposure distribution of the light flux, such that a ratio between Ws and an interval L between adjacent scan lines satisfies the formula $1.2 < Ws/L < 4.5$ to thereby form the central new dot between adjacent scan lines in a manner that stabilizes the formed dots to increase resolution in the sub-scan direction as discussed on line 8 of page 7 through line 5 of page 8 of the specification, for example.

The outstanding rejection of Claims 1-8 over Frazier in view of Itoh is traversed.

Page 2 of the outstanding Action notes that Frazier teaches interleaving pixel formation such that "a dot is formed at a center between adjacent light fluxes as a result of adjacent light fluxes being overlapped with one another," with regard to the disclosure of col.

3, line 43-col. 4, line 41. The actual teaching of col. 3, line 64-col. 4, line 6, of Frazier is that, for the there mentioned commercial system that has the noted threshold times of 134 nsecs that does not producing a dot and that of 201 nsecs that does produce a dot, the 134 nsecs value is used while scanning along scan lines above and below where it is desired to have the dot appear. Thus, dots will be produced by beams traced along horizontal scan lines in the area between the different scan lines where overlap occurs between adjacent horizontal scan line beams that are "on" for the 134 nsecs.

Accordingly, workers of ordinary skill in the art would understand that the basic operating principle of Frazier is the control of the laser beam activated interval ("on" time) to control the creation of dots between the beam horizontal scanning lines as further taught by Frazier at col. 5, lines 42-58.

In contrast to Frazier's principle of operation, the subject matter of independent Claims 1, 3, 5, and 7 all require a ratio of a static beam-spot diameter Ws in a sub-scan direction on a surface of said photosensitive body (or means) defined by $1/e^2$ of a maximum value in an exposure distribution of the beam spot to an interval L between adjacent scan lines to satisfy the formula $1.2 < Ws/L < 4.5$ to thereby form new dots between adjacent scan lines. Thus, the concern in the present invention is that the claimed ratio of beam-spot diameter Ws in a sub-scan direction to the interval L between adjacent scan lines must be greater than 1.2 and less than 4.5, none of which has nothing to do with the Frazier control of the laser beam activation interval ("on" time) to control the creation of dots. This is admitted at the middle of page 3 of the outstanding Action.

To attempt to cure this deficiency in Frazier, the outstanding Action turns to Itoh who

teaches an entirely different approach to that of Frazier with regard to relied upon Fig. 8. In this regard, Itoh describes Fig. 8 to be "a graph showing the light quantity distribution of a light beam obtained using the light quantity control circuit shown in Fig. 7 in recording only one pixel within other pixels in a sub-scan line and in not recording only one pixel within other pixels in a sub-scan line." However the outstanding Action ignores the fact that Itoh describes Fig. 8 as being "obtained using the light quantity control circuit shown in Fig. 7" that is described by Itoh as being "a block diagram showing the light detection/ processing circuit 11 according to the **second** embodiment" (emphasis added) and that there is no teaching to be found in Itoh suggesting any relationship between the Fig. 9A "light detection/ processing circuit according to the **third** embodiment" (emphasis added). Note that col. 6, lines 51-54, of Itoh distinguishes the relied upon FIG. 9 teachings at col.6, lines 31-54, of Itoh as to the **third** embodiment from the separate **second** embodiment teachings of FIGS. 7 and 8 as follows:

> According to the **third embodiment, a threshold level can be set within a range wider than that of the second embodiment**, resulting in a high quality image and a simplified electrophotography process control. [Emphasis added.]

Accordingly, it is unreasonable and illogical for the outstanding Action to suggest that the Itoh **third** embodiment (FIG. 9) teachings of col. 6, lines 31-54, are somehow **TAUGHT BY** Itoh to be used with the "one dot off" or "one dot on" **second** embodiment FIG. 8 teachings. See In re Regel, 188 USPQ 136, 139 n.5 (CCPA 1975) that requires the PTO to present "some logical reason apparent from positive, concrete evidence of record" to support the modification of the actual separate embodiment teachings of Itoh.

In this regard, even when obviousness is asserted based on teachings drawn from a

single prior art reference, there still must be a showing of a suggestion or motivation to modify the teachings of that reference. See In re Kotzab, 55 USPQ2d 1313, 1316-17 (Fed. Cir. 2000) and the supporting decision cited thereat.

If the PTO is to continue to rely on the FIG. 8 teachings of dot formation between scan lines as a teaching taught by Itoh to be incorporated with the third embodiment teachings of col. 6, lines 31-54, it must follow the binding precedent of In re Rijckaert, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) that requires[1] the PTO to indicate where such relied on teachings or suggestions appears in Itoh.

In this last regard, the outstanding Action simply presents the unfounded conclusion that Itoh some how suggests that the relied on FIG 8 teachings should be incorporated with the third embodiment teachings of col. 6, lines 31-54. However, such conclusions as to combining reference teachings without adequate supporting evidence of a suggestion motivating it has been recently discredited by In re Lee, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002) setting forth that the "factual question of motivation is material to patentability, and [can] not be resolved on subjective belief and unknown authority." Also note In re Fritch, 972 F.2d 1250, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992).[2]

Besides not adequately demonstrating the motivation suggesting the combination of

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1 "When the PTO asserts that there is an explicit or implicit teaching or suggestion in the prior art, it must indicate where such a teaching or suggestion appears in the reference."

2 Indicating that the examiner can satisfy the burden of showing obviousness of the combination "only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings . . . ."

the teachings of FIG. 8 and those of col. 6, lines 31-54 of Itoh, the outstanding Action fails to present the required showing of some reasonable and logical basis why the artisan would have been led to further select the teachings of **Itoh** as to the first embodiment that appear at col. 5, lines 16-25 to further modify the combination of the **second** and **third** embodiments. Similarly, the outstanding Action is deficient because it fails to present the required showing of some reasonable and logical basis why the artisan would have been led to further select the laser beam intensity controlling Itoh reference for combination with the laser beam "on time" controlling Frazier reference.

In this last regard, In re Rouffet, 149 F. 3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998) requires an explanation of "the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious" (emphasis added). As noted above, the basic operating principle of Frazier is to control laser "on time" to produce sufficient energy with overlapped beams to create dots. On the other hand, the Itoh basic operating principle is to control laser beam intensity to control dot formation. In order to modify either reference by the teachings of the other, the first step must be to change the existing basic operating principle taught therein. It has long been held, however, that any proposed modification that would change the basic operating principle of a reference is not an obvious one. See In re Ratti, 123 USPQ 349, 352 (CCPA 1959).

Instead of addressing these differences as to Frazier and Itoh operating principles and the differences in the relied upon three embodiments of Itoh and explaining why they would be ignored, the outstanding Action simply notes the existence of the isolated teachings that are believed to be needed from each reference. The bottom of page 4 of the outstanding Action

then proposes that the artisan would have been somehow led to pick just these needed isolated teachings and to take them out of their disclosed context and to combine them because of the merely "possible" and completely unexplained increase in "the potential contrast of the interleaved dot on the photoconductor" and an equally unexplained unexplained manner of increasing "resolution of the reproduced image without increasing cost." As noted above, unsupported conclusions can not be substituted for concrete evidence. Furthermore, it is well established to be error "to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art." In re Wesslau, 147 USPQ 391, 393 (CCPA 1965).

Accordingly, the rejection of Claims 1-8 over Frazier in view of Itoh is without merit as it fails to make the required showing as to evidence of motivation as noted above. Therefore, it is respectfully submitted that withdrawal of this clearly improper hindsight based rejection is in order.

As no further issues are believed to remain outstanding relative to this application, it is respectfully submitted that this application is clearly in condition for formal allowance, and an early and favorable action to that effect is, therefore, respectfully requested.

Respectfully submitted,

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